

**WHAT IS CLAIMED IS:**

1        1.        A fiber optic receiver, comprising:  
2                an opto-electronic transducer configured to generate an electrical data signal  
3 in response to a received optical data signal;  
4                an adjustable response preamplifier circuit coupled to the opto-electronic  
5 transducer and operable to amplify an electrical data signal generated by the opto-  
6 electronic transducer; and  
7                a mode selection circuit coupled to an output of the preamplifier circuit and  
8 configured to transmit a mode control signal to the preamplifier circuit in response to  
9 a received control signal.

1                2.        The fiber optic receiver of claim 1, wherein the mode selection circuit is  
2 configured to transmit the mode control signal to the preamplifier circuit in response  
3 to a received data rate control signal.

1                3.        The fiber optic receiver of claim 1, wherein the mode selection circuit is  
2 configured to transmit the mode control signal to the preamplifier circuit in response  
3 to a received power mode control signal.

1                4.        The fiber optic receiver of claim 1, wherein the mode selection circuit is  
2 configured to modulate the mode control signal onto a common line coupled  
3 between the preamplifier circuit and the post-amplifier circuit.

1                5.        The fiber optic receiver of claim 4, wherein the mode selection circuit is  
2 configured to modulate the mode control signal onto the common line as a single  
3 pulse.

1                6.        The fiber optic receiver of claim 4, wherein the mode selection circuit is  
2 configured to modulate the mode control signal onto the common line as a multiple  
3 pulse pattern.

1           7.     The fiber optic receiver of claim 4, wherein the mode selection circuit is  
2 configured to modulate the mode control signal onto the common line as a time-  
3 varying signal.

1           8.     The fiber optic receiver of claim 1, wherein the preamplifier circuit  
2 comprises a mode detection circuit configured to generate a response control signal  
3 for adjusting the response of the preamplifier circuit based upon the mode control  
4 signal transmitted by the mode selection circuit.

1           9.     The fiber optic receiver of claim 8, wherein the mode detection circuit  
2 is configured to detect one or more mode control signal pulses modulated onto a  
3 common line coupled between the preamplifier circuit and the mode selection  
4 circuit.

1           10.    The fiber optic receiver of claim 9, wherein the mode detection circuit  
2 is configured to detect the one or more mode control signal pulses based upon a  
3 comparison of a common line voltage with a reference voltage.

1           11.    The fiber optic receiver of claim 8, wherein the mode detection circuit  
2 is configured to detect a time-varying mode control signal modulated onto a common  
3 line coupled between the preamplifier circuit and the mode selection circuit.

1           12.    The fiber optic receiver of claim 11, wherein the mode detection circuit  
2 comprises a frequency detector.

1           13.    The fiber optic receiver of claim 1, wherein the preamplifier circuit is  
2 configured to select one of multiple sets of operating parameters based upon the  
3 mode control signal transmitted by the mode selection circuit.

1           14.    The fiber optic receiver of claim 13, wherein the preamplifier circuit is  
2 configured to adjust one or more bandwidth response parameters in response to a  
3 bandwidth mode control signal transmitted by the mode selection circuit.

FOI b3 b7C b7D

1           15.    The fiber optic receiver of claim 13, wherein the preamplifier circuit is  
2 configured to adjust one or more supply current operating parameters in response to  
3 a power mode control signal transmitted by the mode selection circuit.

1           16.    The fiber optic receiver of claim 1, wherein the mode selection circuit is  
2 incorporated within a post-amplifier circuit.

1           17.    The fiber optic receiver of claim 1, further comprising a receiver optical  
2 sub-assembly (ROSA) comprising a fiber optic connector for coupling to a mating  
3 connector of a fiber optic cable.

1           18.    The fiber optic receiver of claim 17, wherein the preamplifier circuit is  
2 incorporated within the ROSA.

1           19.    The fiber optic receiver of claim 18, wherein the ROSA and the post-  
2 amplifier circuit are mounted on a common substrate.

1           20.    A fiber optic receiver, comprising:  
2 a substrate;  
3 a receiver optical sub-assembly (ROSA) mounted on the substrate and  
4 comprising a fiber optic connector for coupling to a mating connector of a fiber optic  
5 cable;

6 an opto-electronic transducer incorporated within the ROSA and configured to  
7 generate an electrical data signal in response to a received optical data signal;

8 an adjustable response preamplifier circuit incorporated within the ROSA,  
9 coupled to the opto-electronic transducer, and operable to amplify an electrical data  
10 signal generated by the opto-electronic transducer; and

11 a post-amplifier circuit mounted on the substrate, coupled to an output of the  
12 preamplifier circuit, and configured to transmit a mode control signal to the  
13 preamplifier circuit over one or more common lines coupled between the  
14 preamplifier circuit and the post-amplifier circuit in response to a received data rate  
15 control signal.